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St. Bartholomew's Hospital Journal,

JANUARY, 1903.

"Æquam memento rebus in arduis
Servare mentem."—Horace, Book ii, Ode iii.

Medicine, Old and New.

The Mid-Sessional Address delivered before the Abernethian Society, January 15th, 1903.

By SIR WILLIAM CHURCH, K.C.B., M.D., F.R.C.P.



HEN, after accepting with some hesitation the honourable task which your secretary asked me to undertake of giving this Mid-Sessional Address, he further asked me for the title of the subject I should choose, I am afraid I somewhat hastily and with-

out due consideration gave him as a title "Medicine, Old and New;" for when you consider the meaning of the words it is obvious that there can be no such distinction. The definition of medicine is not easy. If you look for one in dictionaries or encyclopædias a different meaning is placed on the word according as the writer has regarded it as an art or science. Hippocrates defines it at some length as "the delivering sick persons from their disease, and the diminishing the force of sickness, and the not undertaking the treatment of those who are quite overcome with sickness, as we know that medicine is here of no avail." Celsus is much briefer and more hopeful. He says, "*Medicina sanitatem ægris promittit.*" In the *Encyclopædia Britannica* the writer defines medicine = the science of medicine—the theory of diseases and remedies. Power and Sedgwick, in their *Dictionary of Medicine*, say, "Medicine is the art by which it is attempted to procure health and cure or alleviate diseases." Whilst Skeat, rejecting the use of the word as implying either a science or art, gives as its meaning, "Something given as a remedy for disease"—a wholly insufficient meaning of the word, and confining its use to perhaps the least important part of medicine when looked upon as both a science and an art. Regarded from that standpoint, medicine is the science of preventing disease, restoring to health the sick or maimed, and the alleviation of the sufferings of those who cannot regain health; and together with its practical application—the art—is never new or old, but is for ever changing and varying in accordance with the knowledge and prevailing tendencies of the age. The practice of the art must be as old as the first development of a reasoning mind, for we know that no people have ever been found who did not make attempts to cure the sick and heal the injured. We have evidence also that in prehistoric times, how remote from these days the geologists can hardly tell us, the doctors of those rude times performed serious surgical operations with their flint instruments; trephining the skull, sometimes apparently for the treatment of depressed fractures, and at other times probably for the exit of evil spirits.

And I shall show how little change took place in the practice of the art during the long period that elapsed between the Hippocratic era and the last century.

It will be convenient to divide the subject into periods which are quite arbitrary, but may help us to keep in view the progress and recession of medicine, in accordance with the progress and recession of other forms of knowledge. For my purpose this evening we may therefore take the following as periods more or less marked off from one another.

1st. The pre-Hippocratic period, of unknown length.

2nd. The period ranging from Hippocrates, 460 B.C., down to the time when Greek learning began to be lost sight of, about 600 A.D.—a period of 1000 years.

3rd. From the end of the seventh century after Christ to the time of Harvey—about 1000 years.

4th. From Harvey's time till Pasteur's—220 years.

5th. From Pasteur and his followers onwards.

Of the pre-Hippocratic period we know little or nothing; but it is evident that the knowledge embodied in the writings of Hippocrates cannot have been the result of his observations and work alone, but represents the accumulated knowledge of his age and the times that preceded it. We are apt to forget, regarding and speaking of Hippocrates as the father of medicine, that he lived at a time when, after long centuries of development, Greece had reached its acme in literature, philosophy, and art. Accepting the usual date given for him, B.C. 460, he was contemporary, or nearly so, with the greatest names of Greece—Pericles among statesmen; Æschylus, Sophocles, Euripides, Aristophanes, and Pindar among poets; Socrates, Xenophon, and Plato among philosophers; Herodotus and Thucydides among historians; and Phidias among artists. These may all be said to belong to his period.

The medicine of Greece, like its philosophy, was of indigenous growth, and owed little to external sources, and certainly did not depend in any way on Oriental ones; hence it arises that we find it in Hippocrates' time so free from superstitious charms and priestly influence.

Without accepting the mythical history of the Asclepiades, we recognise that before Hippocrates there was a class, probably an hereditary one, of medical practitioners going back to very early times, and being amongst the most highly educated of their day. We may assume, from what Homer says of Podalirius and Machaon, that they were not only skilled in medicine, but occupied prominent positions as influential leaders in the Trojan war.

Scattered through Plato's works are many references to the physician, and it is obvious that they held a high position in the Grecian communities as educated and philosophical men. We find them compared to judges and statesmen, but I am bound to confess that, in Plato's dialogue of "The Statesman," the Eleatic stranger does not speak favourably of them, saying, "The physician saves any

whom he wishes to save; and any whom he wishes to maltreat he maltreats, cutting or burning them, and, at the same time, requiring them to bring him payments, which are a sort of tribute, of which little or nothing are spent upon the sick man, and the greater part are consumed by him and his domestics; and the *finale* is that he receives money from the relations of the sick man or from some enemy of his, and puts him out of the way."

It is singular that we should be almost as ignorant of the history of medicine between the days of Hippocrates and Galen as we are of the pre-Hippocratic era. In Galen's writings references are made to various authors who, we may presume, advanced our art, and a few fragmentary passages from them are included in his works, but, unfortunately, none of their writings are extant. We know that during this period the Cnidian school of medicine arose, and that under Erasistratus and Herophilus the Alexandrian school became famous, and that real advances in anatomy were made by it.

For some centuries after Galen, although the decadence of Greek learning may have begun, the medical writings, for the most part commentaries on his works, maintained a high standard. I will not weary you by mentioning them all, and the periods at which they wrote are by no means certainly known. Paulus of Eginata was one of the latest, and subsequent to him Greek medicine, as well as learning rapidly was lost in the growing darkness which, for the next five or six centuries, covered the Western world. During those years of gloom Europe owed all its knowledge of Greek medicine and philosophy to the Arabians, who translated, transcribed, and borrowed from the Greek authors which came into their possession, and the Arabic MSS. were translated into Latin, generally by learned Jews, and thus it happened that the Arabian physicians were so highly thought of during the Middle Ages. To Mundinus, among the moderns, belongs the credit of reintroducing the study of human anatomy. Mundinus was professor at Bologna, and died in 1326, and his *Anatomy* was the textbook for the next 200 years. John Adolphus, of Strassburgh, says of him, "Quem omnis studentium universitas colit ac venerat ut deum." No further advance was made in our knowledge of anatomy until the sixteenth century, when Vesalius, Fallopius, Fabricius, and others arose and led the way for Harvey to lay the foundation of scientific physiology based on observation and experiment. From Harvey's time to the discoveries of Pasteur, notwithstanding the enormous progress that physiological knowledge made in every direction, our views of diseases were not materially altered, and the actual causation of them was not understood any better than in the days of the Greeks. It may, in fact, be said that the old science and art of medicine remained unchanged in character until Harvey's time, and that the new did not begin until after the discoveries of Pasteur; but there was an intervening period of about 200 years

from Harvey to Pasteur during which our knowledge of physiology and disease was so greatly extended that it prepared the way for the reception of the discoveries of Pasteur and his followers.

After this brief survey of the different periods into which the history of medicine may be divided, let me go back to consider at a little greater length what is known of the theories and practice of our art at the earlier periods.

I doubt if any of you who have not dipped from time to time into the works of Hippocrates, Galen, Celsus, or Paulus of Egina have any idea of the very high state of perfection the art of medicine and surgery had attained, and how closely it resembled our modern practice.

We moderns are too much in the habit of thinking that all progress in our art is due to ourselves and our own times, and few take the trouble to acquaint themselves with the practice of our forefathers. This arises, I believe, from the faultiness of the anatomy and pathology of the ancients, and their ignorance of physiology. We recognise the grossness of their errors in physiology and pathology, and to a lesser extent in anatomy, and are apt to rush to the conclusion that their practice was equally faulty.

Let me draw your attention for a few minutes to some points in their practice, and it will be convenient for several reasons to make use of Paulus of Egina as a text-book. (1) His is the last synopsis of the practice of the Greeks; he tells us in his preface that his book is "a brief collection from the works of the ancients," and that he has set down little of his own. (2) He mentions that the works of Oribasius, comprehending seventy books, were not easily to be procured by the people at large, and that the epitome of them, by his son Eustathius, is deficient and imperfect. (3) Paulus has been admirably translated, some sixty years ago, by Dr. Francis Adams, who has commented on it most fully and hurriedly, and gives a review in his comments of all that is known of the medicine of the ancients.

Ophthalmic surgery had reached a very high pitch of excellence; both the displacement and extraction of the lens was practised, and the breaking up of soft cataracts. Galen gives directions for recognising the consistence of different cataracts, and which were in a fit state to be operated on. If the lens could not be displaced downwards, Celsus directs that it should be broken up and extracted by a tube and suction.

Paulus quotes the directions given by Autyllus (who is of uncertain date, but certainly anterior to Galen) for the operation of tracheotomy. The patient's head was to be bent backwards to bring the windpipe into view; the trachea was then to be divided transversely between two of the rings. No directions for the insertion of a tube or anything to keep the edges apart are given, and from the remarks of Aretæus on this operation I think it was a theoretical one rather than one actually practised, for he says, "Those who, in order to guard against suffocation,

make an incision into the trachea for breathing do not appear to me to have proved the thing by actual experiment."

The abscission of strumous or scrofulous glands was practised, and, as you know, it is only recently that the operation has come again into general use. Umbilical and other herniæ were recognised, accurately described, and directions for operating on them fully given by Paulus.

Aneurysms were well known. Paulus says those in the armpits, groins, and neck must be left alone, on account of the largeness of the vessels involved; but those of the extremities, the limbs, and the head can be operated on. The operation they performed was the Hunterian one; the artery was laid bare, an aneurysm needle and thread was placed under the artery above and below the aneurysm, the ligatures tied, and the swelling divided. It is very remarkable, I think, that whilst the ligature was used for this operation, and also described by Paulus for stopping hæmorrhage, both venous and arterial, from wounds, the ancients do not appear to have used them in amputations, hot irons being applied for the purpose of controlling the hæmorrhage. The Greeks were not in favour of amputation, and it was apparently only done to separate gangrenous from healthy parts. Hippocrates and Galen recommend that, if done, it should be performed at a joint. Archigenes and Heliodorus appear to have had some idea of a tourniquet, as they advise a ligature being placed round the limb before amputation.

I have never been able to understand how the notion that arteries contained only spirits and air was at one time so widely accepted, in the face of Galen's writings, and the descriptions of the difference between the hæmorrhages from a vein and an artery given by other Greek writers. This is what Aretæus says:—"If the hæmorrhage is from an artery the danger is more imminent, and to stop it is not so easy [as from a vein], for the pulsations of the artery provoke the hæmorrhage, and the lips of the wound do not close from the frequent movements of the vessel." Erasistratus is said to have been the originator of this error, which was especially attacked by Galen; but notwithstanding Galen, Aretæus, and other Greek authors, it was very generally held as the truth at one time.

Hippocrates, as you all know, wrote most fully and wisely on fractures and dislocations, but you may not remember that he made use of a special rack for extension of the limb in dislocations of the hip and other large joints, or that he treated fractures of the thigh with the bony splint in exactly the same way as they were treated by our surgeons when I was a dresser.

Perhaps the most remarkable of all Hippocrates' writings is his description of what he calls "congenital displacement of joints," and "especially those of the ankle-joint." There are, he says, "more than one variety of club-foot;" the form he treats more especially is that which we call

varus. His directions for remedying this condition are almost the same, with the exception of division of the tendons, as we use now. He made use of "Chian slippers" with soles strengthened by leather or lead, and also of what he terms the "Cretan shoe." Galen did not know what the shape of these were, but evidently we have here foreshadowed something of the nature of Scarpa's boot.

Renal calculus was recognised, but it is doubtful if the operation for the removal of stones from the kidney was ever attempted.

Albucasis, an Arabian physician of the eleventh or twelfth century (for his date is uncertain), was a most bold operator, and he apparently had not only recommended but practised the operation. In connection with Columbus I must mention a very singular remedy which Paulus says was much recommended. "A wren pickled whole, and eaten in a raw state, makes the stones which are already formed pass with the urine, and prevents them being formed again; and if it be burnt alive with its wings, and the ashes, along with pepper and a moderate quantity of Indian leaf, be drunk out of muster, it will be the same thing."

I might multiply these examples of good surgery to any extent, but I have instanced enough to show you how closely in many respects the surgery of these far distant days approximated to that of our own times.

In pure medicine the small acquaintance which the Greek physicians had with physiology and pathology renders their descriptions of disease and their treatment of it more difficult to follow, but the *Aphorisms* of Hippocrates teach us how acutely they interpreted clinical signs and symptoms. And we have no reason to doubt that their practice was equally conducive to the welfare of their patients, as was the surgery.

Hippocrates and the Greek physicians in general made use of few potent drugs, and their pharmacopœia was free from most of the superstitious and disgusting substances which were so freely admitted in later times; they made use of diet and regimen to a much greater extent than has been subsequently done,—at all events until the last few years, when we have learnt to depend not a little on both diet and regimen. Herodotus, who was anterior to Hippocrates, is considered to be the originator of the gymnastic school, which eventually became more or less famous. Thus we see that treatment by regulated movements was practised two thousand years and more before the days of Nauheim and the Swedish treatment.

Hippocrates' famous essay, *Airs, Waters, and Places*, proves how great an influence the Father of Medicine thought that climate had in forming the character and controlling the health of the inhabitants. The essay on *Regimen in Acute Diseases* is one of which the authenticity is much disputed, but whether his writing or not it is in accordance with his methods, and of great antiquity, being the subject of an important commentary by Galen.

The conclusions arrived at by the Greeks were often correct, and were always sensible. They recognised the incurable nature of some diseases, such as cancer and epilepsy. Of the former Celsus says, "Medicines are of no avail; burning only exasperates the disease, and excision only removes the part affected, for the disease immediately returns." Of epilepsy, in the *Aphorisms*, Hippocrates says, "Those cases which come on before puberty may undergo a change; but those which come on after twenty-five years of age for the most part terminate in death." In his treatise on the sacred disease, as it was called among the Greeks, he argues against the disease having a divine origin any more than other diseases. Aretæus, in his chapter on Epilepsy, says that it was called "the sacred disease, for it is supposed that it is an infliction on persons who have sinned against the moon." Aretæus also mentions some of the reputed antidotes for epilepsy. "The brain of a vulture, the heart of a raw cormorant, and the domestic weasel, when eaten, remove the disease;" but he adds, "I have never tried these things." He also relates that he "had seen persons holding a cup below the wound of a man recently slaughtered, and drinking a draught of blood!! O the present, the mighty necessity which compels one to remedy the evil by such a wicked abomination! And whether even they recovered by this means no one could tell me for certain."

Our own physician Edward Brown, in his book of travels dated 1685, relates that he saw an execution at Vienna by beheading, "and while the body was yet in the chair a man run speedily with a pot in his hand, and filling it with the blood yet spurting out of the neck, he presently drank it off and ran away." Let us hope with Aretæus that such abominable superstitions have passed away for ever.

Aretæus has left us an admirable account of paralysis. He was aware that injury on one side of the brain produced hemiplegia of the opposite side of the body, and "that if the injury be below the head, such as the membrane of the spinal marrow, the parts which are homonymous and connected with it are paralysed, the right on the right side, and the left on the left side. . . . The cause of this is the interchange in the origin of the nerves, decussating each other in the form of the letter X." He has also some shrewd remarks on spitting blood, and observes that hæmoptysis in young persons is frequently followed at no long interval by phthisis.

The Greek physicians associated ascites with hardness and induration of the liver and spleen, as is formulated in these lines from Serenus Samonicus:

"Corrupti jecoris vitio vel splenis acervo
Crescit hydrops."

Paulus's description of jaundice is excellent, and he recognised that one cause was obstruction of the ducts; it is curious and, I think, evidence of how seldom necropsy

was practised that there is no mention of gall-stones in Paulus or Hippocrates; but at a later date Arabian physicians distinctly allude to them. Hydatids they were well acquainted with, and describe accurately the three forms of intestinal worms commonly found in man, and they made use of male ferns for the expulsion of *tæniæ*. The sufferings caused by hydrophobia are graphically given by Paulus, who says, "Of persons falling into this affection we know of none who have been saved." He also gives the following curious experiment to find out if the bite was inflicted by a rabid dog:—"Pound walnuts and apply them to the wound, and the next day take and present them to a cock or hen. At first he will not touch them, but if compelled by hunger to eat them, observe, if the dog that inflicted the bite was not mad, the cock will live, but if mad he will die next day."

Midwifery also attained to great perfection. In malposition of the *foetus* version was made use of. Celsus gives directions for embryotomy. It is singular that no mention occurs of the use of forceps in medical literature before the time of Avicenna, for they were in use before the destruction of Pompeii, as a pair were found in the house of a midwife there, proving that they were in use as early as A.D. 79 or 80, fifty years or so before Galen was born.

The Athenian physicians, like our profession nowadays, were exercised over midwives' bills. In Hippocrates' time none but men midwives were permissible by law, women and slaves being forbidden to study or practise medicine. This the ladies disapproved, and one Agnodice disguised herself as a man and studied anatomy and physic under Herophilus, and having attained knowledge and skill, revealed her sex. The physicians cited her before the court of the Areopagus. The Athenian matrons came into the court, and addressed the judges to so much purpose that the Athenians repealed the old law, and permitted free women to undertake this employment.

You will remember that in the oath of Hippocrates it is expressly stated that under no conditions was the physician to procure abortion. I am afraid that in later times, especially during the Empire, the physicians were not so scrupulous, and even Aristotle and Plato do not appear to have discountenanced the practice, provided that the child had not quickened. In this we have still further evidence of the pure and lofty spirit which pervades all Hippocrates' writings.

I fear I have wearied you with all these extracts. I have brought before you enough evidence to show how well acquainted the ancients were with both surgery and medicine, and how closely their clinical knowledge and practice in many respects approached that of the present time.

But before leaving the ancients, to touch very briefly on the condition of medicine in our country in the Middle Ages, I must draw your attention to the fact that the

physicians of those days met with malingerers as we do, and had also to compete with cheap-jacks and quacks as in these later days. Paulus tells us that by close watching the physician should have no difficulty in finding out the malingerer; and Rhazes, as I shall relate further on, wrote a whole booklet on quacks and their tricks.

I shall pass very briefly over the ages which elapsed between the time of Paulus and the revival of medical knowledge in Europe and our own country. Paulus, whatever may be his exact date, lived somewhat before the time of the conquest of Alexandria by the Saracens. You will remember that the burning of the Alexandria library was 642 A.D., and after that period it was through the Arabians that the knowledge of Greek medicine was preserved. Those of you who would like to know something of the order in which the Arabian physicians succeeded each other, and a brief notice of their principal writings, should consult the learned and interesting history of medicine by Dr. Freind, from whom I have extracted a few of the chief points of interest to place before you to-night.

I have already mentioned that we owe very little original work to the Arabians; their treatises are all founded on the Greek MSS. which they possessed. Nevertheless they introduced certain changes in practice, and in a few instances added to the stock of knowledge, and must receive a few minutes' consideration. The Arabian writers fall into two groups,—the earlier, who may be called the Eastern, and wrote in Syriac, Persian, or Arabic; and the later ones, who were inhabitants of the Moorish cities in Spain, and wrote in Arabic.

Rhazes, Haly Abbas, and Avicenna are the most famous of the Eastern group. To Rhazes we are indebted for the first full description of variola, for smallpox was certainly unknown to the Greeks, and is said to have appeared first in Egypt shortly after the taking of Alexandria. He also was the first writer on diseases incident on childhood. Rhazes is said to have died at the age of eighty, A.D. 932, and among his writings left us a description of the quacks of his time—the curers of epilepsy, who made incisions into the head, and extracted from the wound something they held in their hands, or in the same way produced small lizards from the patient's nostrils. Some go even so far as to sound a man for stone, and even perform the operation and exhibit a calculus they are supposed to have extracted. Others collect all the ills and infirmities of the sufferers into a single spot by raising a violent heat and itching by means of *alkekengi* (winter cherry), and having extracted the illness soothe the spot with oil, and other tricks of a similar nature.

Avicenna, who was born in 980, was a prodigy of learning, and at sixteen years of age was regarded as the luminary of his age. Notwithstanding this reputation for learning he does not appear to have made any original observations on disease. He is stated to have introduced

the method of obtaining sugar by suction, and thus of making syrups.

Among the Arabian physicians who were inhabitants of the cities of Spain, Albucasis, Avenzoar, and Averrhoes are the most famous. I have already alluded to the boldness of Albucasis as a surgeon, and his surgical works, under the name of *Alsaharnoins*, are spoken of by Dr. Freind with great respect. He was a native of the city of Alzahrán, and is thought to have lived at the end of the eleventh century.

Avenzoar lived at Seville at a little later date, and was one of a family in whom the practice of physic seems to have been hereditary. Dr. Freind looks on him as coming under the character of an original author more justly than any other of his nation. He is the first to make mention of bezoars, that mysterious concoction which was at one time so highly valued as a remedy. His description of them is as follows:

"That is best which is found in the East near the eyes of stags. Great stags in these countries eat snakes to make them strong; and before they have received any hurt from them run to the streams of water, and go in so far until it comes up to their heads. This custom they have from natural instinct; and there they continue without tasting the water (for if they should drink it they would die immediately) till their eyes begin to trickle. This liquor which then oozes out under the eyelids thickens and coagulates, and continues running till it increases to the bigness of a chestnut or nut. When these stags find the force of the poison spent they come out of the water and return to their usual haunts; and this substance by degrees growing as hard as a stone, at last by their frequent rubbing it falls off. This is the most useful bezoar of all."

Freind goes on to say that "some moderns will not allow the bezoar of Avenzoar to be the same which has gone under that name in the latter centuries; because this, according to the best account of the most knowing naturalists, is always found in the stomach, or rather *omasum*, of the animal they call *cervicapra*."

Dr. Dover, the introducer into our pharmacopœia of Dover's powder, writes thus forcibly about bezoars in his book, *The Ancient Physician's Legacy to his Country*:—"That petrified mass of disease cut out of the paunches, galls, and bladders of some of the nastiest creatures in being, as Guanaves, a monstrous beast between a camel and she goat; black cattle, hogs, goats, and an animal they call *Pacos d' la Tierra*, monkeys, porcupines, and all such nasty animals." There is no doubt that Dover's account of the origin of this mysterious drug is much nearer the truth than Avenzoar's. The belief in the efficacy of bezoars, not only in jaundice but in other conditions, is one of the curiosities of medicine. Bezoars remained officinal, and included in the London Pharmacopœia until its sixth revision in 1788; "although it was well known," says Dr.

Pemberton, "that being a costly material it is for the most part clandestinely left out by the chemists, upon the supposition that physicians do not depend in any particular manner upon this express ingredient."

A curious confirmation of the value attached to them is obtained from the diary of Richard Bere, a dissolute spendthrift of the time of William and Mary, who mentions in it that he pawned his linen for 10s., and raised 9s. 6d. on his bezoar stone.

Avenzoar is said to have reached the patriarchal age of 135, but the date of his death as of his birth is unknown.

Averrhoes was a native of Cordova, and bred to the law, afterwards studying mathematics and physic. He was a philosopher and man of learning rather than a practising doctor, and had the title of commentator bestowed on him from the many works he wrote upon Aristotle. His work on physic was composed upon the order of the Miramalin (? Sultan) of Morocco, and is a kind of compendium, divided into seven parts, of the whole science of medicine. Freind tells us that in it he makes one original observation, that the same person has the smallpox but once.

The almost entire absence of any literary culture among the ruling classes in Europe during the period we have been considering greatly militated against the spread of knowledge. Few excepting ecclesiastics were able to understand Latin. Greek was entirely unknown, and hence medical practice, such as it was, fell very much into the hands of the Church. The Jews were, as a rule, much better educated than the Christians, and the works of the Arabian physicians were read and translated into Latin by them; and they provided the ages of chivalry with doctors. Dr. Freind says, although "by the Canon law no Jew might be a physician or give physic to a Christian, there was scarce a Christian court but where physicians of this race were entertained, and even the Popes retained them in their service." It was probably through these Jewish translators that the school of Salcormen obtained their acquaintance with Galen and other Greek writers.

The first English writer on physic was Gilbert, unless one considers Roger Bacon as entitled to that distinction, for although he did not practise medicine he wrote a learned and curious treatise *On the Means of avoiding the Infirmities of Old Age*. Neither Gilbert nor his successors, John of Gaddesden and John of Arden, added anything to medical knowledge; and one may say the same of all up to the time of Harvey.

With Harvey began the rise of a really scientific examination into the functions of organs. Physiology, as we understand the term, dates from him, and was energetically pursued by his followers, especially by Willis, Lower, and Mayow. The last, in his *Tractatus Quinque*, came as near the truth in his explanation of respiration as was possible before the discovery of oxygen.

Time will not permit me to allude to the increase of our knowledge of disease during the period between Harvey and Pasteur.

Sydenham has rightly been termed the modern Hippocrates. Untrammelled by the doctrines of the schools, he studied and described disease as we meet with it at the bedside, and may be considered as the founder of clinical medicine in this country. Nor must I omit to mention the names of Huxham and Heberden among physicians, and Pott, Hunter, and Abernethy in surgery.

One name stands out pre-eminent in the period between Harvey and Pasteur, that of Edward Jenner. The discovery of vaccination was not due to chance or to a mere casual observation of Jenner's; it was the result of long and patient observation and of strictly scientific reasoning. Its introduction into practice conferred the greatest blessing which mankind has received from the science and art of medicine, and we must not forget that Pasteur's subsequent discoveries of the methods of conferring immunity sprang, according to his own testimony, from Jenner's immortal discovery.

I must pass on to say a few words on what I have ventured to call new medicine.

Who could have imagined, in their wildest moments, that a purely academic study of tartaric acid and the tartrates could have had any bearing on medicine? Yet out of this research sprang a new era for medicine. To Pasteur, the physicist and chemist, the question presented itself, Why does a solution of tartaric acid (in the form of a tartrate) have, after the lapse of some time, an action on polarised light which the original solution did not possess? This question Pasteur set himself to solve, and in solving it obtained a key to the explanation of the processes of fermentation. It was known that the tartrate and paratartrate of soda or ammonia, although exactly isomeric, similar in atomic composition and crystalline form, differed in many of their chemical reactions and in their action on polarised light. I have neither the time to-night nor the necessary chemical knowledge to place succinctly and clearly before you the steps by which Pasteur solved this riddle. While so doing he noticed that coincident with the breaking up of tartaric acid and its tartrates into new combinations was the presence of living organisms in the solutions.

A few years later, when making his researches into the processes of fermentation, he demonstrated that all fermentation, whatever its nature, alcoholic, acetic, lactic, or whatever its nature might be, was due to the action of living organisms in the fermenting mass. Before Pasteur no chemist had given an explanation of fermentation. Berzelius said that it was due to contact with a catalytic force; Liebig, that ferment was an alterable organic substance which decomposed, and in decomposing set in motion by rupture of its own elements the molecules of fermentative matter. It was the dead portion of the yeast, that which

had lived and was being altered, which acted on sugar. Pasteur proved that without life there was no change, and that a sterilised, *i.e.* a dead mass, remained unchanged so long as it remained free from living organisms. From fermentation he passed on, in 1867, to the study of silkworm disease, and proved incontestably that pébrine and flacherie were due to the noxious action of micro-organisms. The new era for medicine had now begun; these mysterious terms contagion and infection now conveyed a definite meaning, and the transference of disease from individual to individual was understandable.

Pasteur's further researches into diseases caused by living germs, more especially into anthrax and hydrophobia, his labours in connection with the attenuation of the virus and the immunity conferred by vaccination with it, together with his final triumph as related by Mons. René Valléry Radot in his *Life of Pasteur*, are as fascinating reading as the most sensational novel.

Time will not permit me even to mention all the diseases which we now know to be associated with micro-organisms, and due either to their presence or to the toxins they give rise to in our bodies. The list is already long, and is being added to almost daily.

In looking back I cannot but be thankful that it has been my lot to have been on the staff of this great Hospital, and in daily contact with disease. Whilst there most stimulating discoveries have been made. It is almost impossible now to realise the condition of medicine in this country when I was a student, when erysipelas and hospital gangrene was still present in our wards, when the senior surgeon of the Hospital used to refuse to be present at an ovariectomy as an unjustifiable operation, and when the germ theory of zymotic disease was but an unproved, and to many minds an improbable theory. How enormous has been the advance of knowledge in this short period! Think how little change or progress had been made in our conception of disease in the 2000 years and more that had elapsed between the age of Hippocrates and Pasteur, and of the revolution our ideas have undergone during the last forty years. It has been my privilege to see this vast increase in our knowledge of the causation of disease, and I hope and believe that it will be the privilege of many of you to see corresponding revolutions in the prevention and treatment of them. How great a field lies open in the subject of immunity!—a most difficult one to cultivate, but a most hopeful one, for we know already that at least one most fell disease—smallpox—could be brushed from existence if the teaching of medical science were duly attended to.

Nor is it only in this one direction that progress has been made. Growing out of it we owe the discoveries which have lifted the veil from some of the mysteries of malaria, and shown us how important a part even the most insignificant members of the animal kingdom may

have on us who pride ourselves as being the head of it.

Science also has afforded us fresh means of treatment and fresh assistance for diagnosis. By means of the X rays we are enabled to see the position and condition of the bones and the presence of foreign bodies in our own bodies, and, although less satisfactorily, changes in some of our organs. Hopeful results also have been obtained from the use of electric light after Finsen's methods in the treatment of lupus and even cancer, and the X rays appear also beneficial in these and some other morbid conditions.

The whole subject of the presence and influence on our system of what are termed internal secretions is at present in its infancy; but we hope, and not without confidence, that the researches of physiologists and pathologists, guided by the light we have recently obtained, will be fruitful in results affording us means for obtaining control over diseases which have hitherto appeared to be beyond the reach of our skill.

The prospects of therapeutics were never so bright in the whole history of medicine as at the present moment. Chloroform, asepsis, and antiseptics have revolutionised surgery, and deprived it of much of its sufferings and dangers, and enabled surgeons to save lives and limbs in cases which but a few years ago were beyond all hope.

You are commencing your careers at a most critical and interesting era, when the science of medicine has made such progress that we are apt to conclude that our forefathers were mere empirics, and without scientific method in forming their theories of disease and applying them to practice. The art of medicine I think I have shown you to-night existed in a high state of perfection 2000 years ago; let us take care that the results of scientific inquiry, when they appear to disagree with those of observation in the field of practical medicine, do not interfere with the ultimate object of our profession—the healing of the sick. The first rule of our art is to do no harm.

And now I come to the last and most difficult part of my address, for it is to say farewell, and express very inadequately the feelings aroused by the severance of the ties that have bound me so closely to St. Bartholomew's Hospital and its Medical School.

To perform any accustomed duty or action for the last time, unless it be one which is in itself repugnant, is always attended with feelings akin to regret; how greatly are those feelings intensified when the daily and accustomed duties have been regarded as a privilege and pleasure!

The part that the Hospital and School has played in my life for forty years, and these the best of my life, cannot be broken off without leaving some rents behind which it will take long to heal. I am thankful that, although my close and daily connection with your work has ceased, I am not

altogether removed, and am still closely enough connected to take lively interest in your welfare and future.

As a member of the staff I ever had the pleasantest associations with the students, many of whom I am glad to count among my best friends. With the sisters and nurses, more especially those with whom I worked, I have always been in complete harmony, and I take this opportunity of returning them my sincerest thanks for the manner in which they have always performed their duties. There is but one cause for regret in looking back on my life here—my own failings. I am painfully aware of how much more I might and ought to have done for my pupils and patients, how many opportunities for self-improvement and the acquisition of knowledge I have let slip; take warning from me, and make use of your many opportunities here.

It has given me very great pleasure to be with you once more to-night, and to have the privilege of once again addressing you.

Let me wish you all success and happiness in your career here and hereafter.

Scurvy.

A Clinical Lecture by Dr. GEE. (Reported by A. R. NELIGAN.)



HERE is in Hope Ward, at the present time, a little girl who has been suffering from scurvy. Now scurvy, for the last two hundred years at least, has been a very uncommon disease in England; the fact that there has been only one case in the medical wards of this hospital during the past ten years, 1892 to 1901, will show you how rare it is.

There are three kinds of scurvy: (1) sea scurvy; (2) land scurvy; (3) infantile scurvy.

1. SEA SCURVY.

Cases of sea scurvy arriving in the Thames are stopped at the Seamen's Hospital. We never see cases here, and I cannot tell you anything of the disease from experience.

2. LAND SCURVY.

Land scurvy resembles sea scurvy in all respects, but it is less severe; if you have read *Anson's Voyages*, very well written by Richard Walter, chaplain to Anson's ship, you will remember how terribly his men suffered; indeed, if I remember rightly, he lost three quarters of them after he had rounded Cape Horn.

I will now describe to you the case which I mentioned in the beginning of this lecture.

Case.—Florence T—, æt. 11 years. Admitted to Hope Ward December 8th, 1902.

History.—On December 4th she seemed paler than

before; spots noticed inside the lips; right eye bruised as if from a blow.

December 5th.—Spots noticed on body; left eye bruised.

6th.—More spots, all over her; urine very dark in colour.

8th.—The child was brought to hospital.

Condition on admission.—Pale, dirty complexion, what the French call "*Café au lait*," such as occurs in hæmorrhagic diseases. No pain anywhere; and I would ask you to compare this with what occurs both in sea scurvy and in infantile scurvy, in which, as you will see, pain is a marked feature. Numerous ecchymoses all over the body; they resembled those of purpura in every respect; indeed, as you see from the pictures which I have here, the condition in the two diseases is indistinguishable. Gums not swollen or spongy, but round the necks of the teeth there is a little blood. Lips: dark red or black scabs along both lips, which are very dry. Palate: some ecchymoses. Heart: a loud systolic murmur at the apex of the heart; this was explained by her past history, which showed that eight months before she had rheumatism in all her joints, and was ill with it for a month. Urine: sp. gr. 1025, very dark red colour, like claret wine, due to a large quantity of blood; a corresponding amount of albumen. There is no bleeding from the nose, lungs, stomach, or bowels. The liver and spleen seem natural. The temperature is 101°; her fever was not due to the scurvy, however. I will refer to it again, and will only mention here that it rose later.

On looking at the girl I first thought of purpura hæmorrhagica, and therefore formed a very bad opinion of her condition, as the disease is nearly always fatal. Then Sister told me that the family was very poor, and indeed half starved. Reflecting on this I thought of scurvy, and so ordered the juice of a lemon daily, mashed potatoes, and any other soft food the child could take. This diet was begun on December 9th.

On December 10th she was better; the urine contained very little blood, and was only just smoky.

On December 11th she was still better; the urine was natural in colour, and there was a slight haze of albumen only.

On December 16th the spots had nearly all faded and gone.

I would ask you to notice this remarkable sequence of events:—on the first day after beginning treatment, *i. e.* on the sixth day of her illness, the child was better; on the second day the blood had disappeared from her urine; and on the thirteenth day of her illness, or just one week after coming to hospital, she was practically cured, at any rate as far as her scurvy was concerned. The immediate effect of anti-scorbutic treatment proved the nature of her disease. We can do little or nothing for purpura hæmorrhagica.

Now we learned that the girl had lived chiefly on bread and butter and weak tea; she sometimes had potatoes and also Nestlé's condensed milk. Scurvy, however, is seen in

patients who have taken some antiscorbutic food, but not enough. Her food was not only poor in quality, but scanty in quantity.

From December 12th to 20th the girl was febrile. As fever is no symptom of scurvy, I thought it was perhaps a return of the rheumatism which she had before. Salicylate of soda speedily arrested it. We have here, therefore, a case of scurvy complicated by an attack of rheumatism.

3. INFANTILE SCURVY.

The most common form of scurvy in England is infantile scurvy, and it is no doubt more often met with since the introduction of condensed milk and of other artificial foods. These foods came in about the year 1870. I was then at the Children's Hospital, and previous to that time I may say that I had never seen a case. When I first saw and described it I thought it a new disease, and, indeed, so ill-recognised was its nature, that Sir Thomas Smith (then Mr. Smith) operated on the thigh of a child suffering from the disease and found a large quantity of blood effused between the femur and the periosteum. Dr. Cheadle first showed it to be scurvy. [See Allbutt's *System of Medicine*, vol. v, p. 604.]

The age at which infantile scurvy appears is between six and eighteen months. It is usually associated with rickets, hence its second name "scurvy rickets;" the rickets is, however, often slight.

Symptoms.—The earliest and commonest symptom is great tenderness of the legs; the child "cannot bear to be touched," and "suffers great agony when lifted." When I am asked to see a case and am told this, I feel pretty sure of the diagnosis. The child is comfortable enough while left alone; it lies helpless on the bed as if paralysed. The legs look swollen; the bones can be felt enlarged, more especially the lower end of the femur and the tibia. Many other bones may be affected, such as those of the arm and even the scapula, but the femur and the tibia are by far the most common. The swelling is due to hæmorrhage beneath the periosteum, as Sir Thomas Smith described in his case. The child is pale and cachectic-looking, and bruises with great ease. If it is cutting teeth the gums are swollen, livid, spongy, and bleeding. The urine is sometimes very bloody; sometimes this is the only sign of scurvy in infants. I have published instances of this in the *Hospital Reports* (vol. xxv), and will read you one of them.

Case 2.—A girl æt. 10 months, seen with Dr. Boulting, of Hampstead, on March 5th, 1887. Bloody urine had been seen for six weeks, and during that time it had always been bloody,—that is to say, the hæmaturia had been constant. The microscope showed a large number of red discs, and a much smaller number of leucocytes; no casts. There were no signs of an affection of the bladder, and no abdominal organ could be felt enlarged. No other

signs of scurvy. She was rickety, not very pale, and had cut one lower incisor. She had been fed upon Nestlé's food. There were five other healthy children in the family.

I prescribed new milk, mashed potato, lemon juice, and cod-liver oil.

On March 16th Dr. Boulting wrote thus: "The hæmaturia has quite ceased. It is interesting she took the lemon juice with avidity. She had not been fed on Nestlé's food exclusively; for four months her mother had been giving her cow's milk also, with Robinson's groats." The disease, I believe, never returned.

There is no fever during the disease.

Prognosis.—The prognosis depends on the treatment; unless properly treated the children usually die; treated properly they recover quickly in a week or two. Three out of the five cases I first published died; probably had I known the true nature of the disease I should have lost none of them; it is a curious fact that they were all among well-to-do people. Hence the importance of recognising the affection when you see it.

I now come to the *causes* of scurvy. Scurvy never occurs in persons fed on good food; the cause is therefore bad food. But in what respect is it bad? It is always stale food, never fresh. How does stale food cause scurvy? We are here met by difficulties. Two explanations are offered:

1. The fact that fresh vegetables, watercresses, lemons, and oranges speedily cure scurvy leads to the hypothesis that stale food is deficient in something. This is the prevalent opinion. But deficient in what? The citrates and potash have been suggested, but this is at once set aside by the fact that the administration of citrate of potash to a scurvy patient does no good. There are many guesses, but nothing probable, much less certain.

2. The resemblance of scurvy to purpura and other hæmorrhagic diseases, such as that due to snake-bite, and icterus gravis or malignant jaundice, suggests the hypothesis that stale food contains a poison, probably of the nature of a ptomaine. Ptomaines are known to produce a hæmorrhagic tendency in some cases. It is to this view that I myself incline. If it be true, however, why do fresh vegetables cure? We do not know; this is a weak point.

Infants who are suckled never get scurvy; those who are fed on condensed milk and other prepared foods, with but little, if any, fresh cow's milk, are likely to do so.

Treatment.—The treatment of scurvy falls under two heads:

- i. *Diet.*—New milk, rice milk, milk arrowroot, and any easily digested food provided it is soft, having in view the state of the gums.

- ii. *Special antiscorbutics.*—Lemon juice, lime juice, oranges, mashed potatoes, watercresses.

The value of lemon juice and lime juice in scurvy was

known long ago. I have here a book written by John Woodall in 1617. Woodall was elected surgeon to this Hospital in 1616, and he retained office until his death in 1643. It is called *The Surgion's Mate*, and in it the writer advises that all ships leaving England should take with them a store of antiscorbutics, especially "lemons and limes."

Under treatment such as this your cases of land and infantile scurvy will recover speedily and completely. There is hardly any disease in which the results of treatment are so successful and satisfactory.

Presentation and Dinner to Sir William Church.

DURING Sir William Church's long term of office as Physician to the Hospital he has had forty-six house physicians. Of these six are dead and two are in practice in Australia. During the winter a movement was started amongst those who remain in England to make some gift to Sir William as a mark of the deep respect and affection which they feel towards their old chief. The highly successful ceremony held on February 23rd was the outcome of this decision. Twenty-nine of the possible thirty-eight were present at the dinner that preceded the presentation, and a pleasanter or cheerier gathering could not be imagined. To Mr. Macready, who was house physician in 1875, was allotted the task of presiding and of making the presentation, a duty which he performed in the most admirable manner. He spoke of this presentation of plate as an outcome of the desire to perpetuate the affection and regard which all had felt for Sir William. He dwelt especially on the absolute sincerity and honesty of purpose of Sir William in all his work, and of the unvarying kindness he had always shown to those present both during their term of office and in after life, and he begged Sir William to accept this gift as a small memento of the gratitude of his house physicians.

Sir William then, amid loud cheering, rose to reply. Speaking with obvious emotion he thanked all present, and those who had been prevented from coming to the dinner, for their gift to himself, which he said he should always regard as a most precious possession for himself and his family. Speaking, as he said, not as a great physician or man of science, titles which he disclaimed, but rather as a father to his sons, he referred to the cordiality of his relationship with his various house physicians, a relationship never once marred by any unpleasantness during the many years of his office, and he thanked all for the assistance they had given him in his work. He said that he had never been an ambitious man, but that as a young man his great desire had been to be Physician to St. Bartholomew's Hospital, and that he regarded this evening as the crown of

that ambition. He referred to the great surprise that his election as President of the College of Physicians had been to himself—a surprise that had also brought a great pleasure,—and he attributed his success more to the respect which he had been enabled to gain from his house physicians, and through them from the profession at large, than to any scientific or professional attainments.

Sir William then went through the list of his house physicians, giving a short account of their careers, and referring with evident pride to any distinctions they have won. He ended by repeating his thanks for the presentation and the good feeling that had prompted it, and by wishing all present health and prosperity.

Dr. Rolleston then proposed the health of Mr. Macready for presiding, and to Drs. Batten and Ormerod for their trouble in organising the dinner and presentation. This toast was drunk with enthusiasm, and suitably replied to. The company then adjourned to Dr. Fletcher's house, where an exceedingly pleasant evening was brought to a successful close.

Random Notes on Sanatoria.

By EGBERT C. MORLAND, M.B., B.Sc., and
EUSTACE TALBOT, M.B., M.R.C.P.

THESE random notes on a subject which is of the very first importance to practical modern medicine are the outcome of a short tour among the German sanatoria which lie within easy distance of the Rhine railway. It is obvious that the impressions gathered from so brief an inspection must be sketchy and inaccurate, for the observer is much at the mercy of those who show him round, and his views may be much influenced by such purely external circumstances as the type of weather encountered, or even the brand of Rhine wine provided. At the same time we feel that the impressions received by a new-comer who strives to rid himself of all prejudice, national and otherwise, and is capable of a certain amount of observation, might be of interest to readers of the JOURNAL.

We have heard so much lately of the superiority of German sanatoria in every respect to English ones, that it has been the greatest satisfaction to find ourselves in cordial disagreement with much of the routine of those which we have seen. To begin at the wrong end, we will here set down some of the conclusions we came to, trusting that they may not be seen either by those who received us so kindly or by the anglophobe press.

(1) The standard of ventilation of a German sanatorium is no better than that of an ordinary English house. To give a single example of this: in the three large sanatoria of Hohenhonnet, Falkenstein, and Wehrawald we never saw a single corridor window open, although in two of them

we spent nearly twenty-four hours, and although the weather was unusually mild for winter.

(2) The standard of personal cleanliness is much lower than ours. Without touching on this in detail—it is difficult to do so without being offensive—we need only instance the fact that bath-rooms are only to be found on the ground-floor, in some instances are relegated to the extreme remoteness of the basement, and even then are only in the proportion of one bath to about fifty patients. What the German calls "hydrotherapy" appears to about represent the Englishman's morning tub.

(3) The whole sanatorium system, speaking generally, tends to be only a modified indoor existence. We saw sheltered walks and open-air shelters admirably planned, but we did not see the patients there; they were to be seen at all times of the day in the beautiful common rooms, carefully warmed to 63° or 65° F., or lying in serried ranks in the Liegehallen, carefully protected from every breath of wind or stress of weather. For us to walk down to the station sixteen miles in the sleet appeared to medical officers and patients alike a kind of mistaken heroism. All this came with something of a shock to those who believe in the real outdoor life as being the chief safeguard to the phthisical, whether "curing" or "cured."

Having said thus much of a critical nature, let us now turn in detail to the several sanatoria, and we shall have occasion to mention many points of great excellence, much to profit by and remember.

Hohenhonnet, which we first visited, is close to the little town of Honnet on the right bank of the Rhine, about thirty miles above Köln. The sanatorium is situated on a steep slope of the Siebengebirge, nearly 800 feet above the Rhine, looking down over it with a magnificent view. It is a palatial stone building of five stories, with rooms for 110 patients. The general plan is of a long central block facing south-west, with wings at the ends inclining inwards and protecting the Liegehallen from wind. To the north is the dining-hall, reached by a bridge from the corridor, and with the kitchens underneath. We will not give a detailed systematic description of this or of the other sanatoria, as the reader can find it in Dr. Walters' excellent treatise, which we used as a guide-book (will the author kindly publish an india paper edition for travellers?); we will only give our own impressions. We had some hesitation whilst driving up as to how we should be received, but here, as at Falkenstein and Wehrawald, we were treated with the greatest of hospitality. Dr. Meissen himself is a man of charming personality, much beloved by his patients. His Kurordnung, or book of directions for the guidance of patients, is a model of clear, sensible treatment, and I would commend it to all who have to do with the management of sanatoria. Dr. Meissen considers the healthiest room temperature to be 14° to 15° R. (64° to 65° F.), adding, however, "at night it is best to sleep in a cool

room ;" hence dining-room, corridors, and common rooms are all kept at this temperature, and one longs for a breath of the cool, sweet air outside. We cannot believe that it is at all wise to have this contrast between indoor and outdoor temperature, at any rate in a climate like that of Hohenhonnef, which is nearly as mild as that of our own south coast. Later on we were told of patients "catching cold" by going out of doors, and of "influenza" running through a sanatorium—surely a reflection on this hothouse system. The windows are supposed to be thrown open between 6 and 7.30 a.m. and during meal-times. At night the bedroom windows are opened, except in bad weather, or when the cold is likely to freeze the hot-water pipes. The heating is all by hot water, but the pipes are of large diameter and annular in section, grouped in a great stack, and it is very efficient and easily regulated. The method of dealing with sputum is of interest, as Dr. Thom, the first assistant, has discovered a substance which, in solution, will dissolve up the mucus and kill the bacilli within a few hours, and is at the same time inexpensive and non-poisonous: he is shortly reading a paper at Berlin, when he will make his discovery known. As to results, Dr. Meissen told us that early cases all do well, but the others—an expressive gesture ended the remark: we heard everywhere the same story, as well as the equally familiar one that constantly they are sent cases said to be "early," with extensive consolidation or old cavities. This is the chief woe of the Sanatorium-Arzt. With regard to some details of treatment, Dr. Meissen pays little attention to local treatment of the throat. He allows his patients to smoke in moderation; he forbids card-playing—but one must remember the excitable German temperament. The women, speaking generally, do as well as the men. The grounds are beautifully laid out with walks of gentle gradient, quite protected from the various winds, and with exquisite views of the Rhine and beyond. We were told that the site of 200 acres alone cost £50,000, and the sanatorium altogether £125,000. In ordinary years it only paid the shareholders 1 per cent., and quite exceptionally 2 to 3 per cent. It would, therefore, be quite impossible to run a sanatorium in the style and luxury of Hohenhonnef on ordinary commercial lines, the fees there at present averaging only about £4 4s. a week. We found no English patients, but many Russian, and a few of other nationalities.

Falkenstein is three hours further south in the Taunus Mountains, about thirty miles from Frankfurt. Its chief interest is historical, in its association with the name of Dettweiler, who is still consulting physician, and in the fact that most of the other German sanatoria, including Hohenhonnef, have emanated from it. Dettweiler also is responsible for starting the first Volks-Sanatorium in Germany. Walking up from the station through some charming beech woods, it was rather a shock to find the sanatorium in the middle of the village and in convenient

contiguity to the inn. It looked old and somewhat shabby compared with its well got-up offspring, Hohenhonnef, but not without a certain stateliness of its own. The plan is again that of an enormously extended south frontage, with only two or three stories, and with Liegehallen on the sheltered aspect. These latter, if more primitive, seemed to us much more airy than those of Hohenhonnef. Going along the corridors we remarked spittoons on the floor—surely an insanitary practice, for fluid projectiles must scatter, except, perhaps, in America. We were introduced to Dr. Besold, now the head, Dr. Hess having retired through illness. Dr. Besold speaks English fluently, and it was very interesting to hear his views on many points of sanatorium conduct. He is an enthusiast on local treatment of the throat, and gets wonderfully good results in early cases. He showed us a somewhat fearsome instrument with which he is wont to remove the diseased epiglottis, which he considers it fatal to leave. He told us that Koch's views on the non-transmission of bovine tuberculosis are generally repudiated by those competent to give an opinion in Germany; that Dr. Dettweiler's practice of giving large routine doses of spirits is no longer carried out. He is much against the weekly weighing of patients, as tending to an alternation of undue excitement and depression. A large portrait of the King hangs on the waiting-room wall, and Dr. Besold spoke of his visit to the sanatorium last year. We had there the singularly un-English meal of "second breakfast" in a spacious dining-hall, again sadly lacking in fresh air.

On leaving, Dr. Besold very kindly gave us copies of his papers on laryngeal tuberculosis, and of his third edition of Dettweiler's *Sanatorium Treatment of Pulmonary Tuberculosis*.

Nordrach-Colonie, which we visited next day, took us away from the sanatoria of spacious building and scientific equipment to one of an overpowering personality. We walked up the nine miles from Biberach Station through a typical Black Forest valley; and at the head of the valley, where the two brisk noisy streams join, came to a picturesque group of buildings, mostly chalets. We waylaid Dr. Walther outside the old village inn, which is now an administrative block, but only caught a glimpse of the picturesque figure with bald head, grey beard, and velvet suit before he somewhat briefly handed us over to his very courteous assistant to conduct us round. The whole place was strangely familiar from the accounts one has seen and heard (it is, indeed, far better known in England than in Germany, as the forty-four English patients out of a total of fifty there testify; nor did we meet a Sanatorium-Arzt who had been there, although all knew the other type of sanatorium well),—the main residential block, 100 feet up one side of the valley, with steep zigzag path up to it; further along Dr. Walther's own house, with its clock tower; and down by the village street between it and the stream,

the dining-hall with its single long table (fifty-seven feet in length), its window-frames made so as to be easily removable in summer, and at one end the raised platform and a few comfortable chairs, the only common room in this primitive colony. The patients were doing their prescribed afternoon walks in the pine forest in spite of the rain, bare-headed and overcoatless as we saw later, but for the most part with umbrellas. The rooms felt comfortably warm to go into, with their coils of steam or hot-water pipes, or else electric radiators; electricity is cheap where an active stream is the generator. All the rooms had plain unvarnished matchboarding for walls and ceiling, linoleum floors, plain convenient wooden furniture, and everything exquisitely clean and sweet-smelling,—apart from any system, good or bad, the conditions of clean, healthy living. As we walked down to the station again in a Schwarzwald downpour one mentally combined the physical conditions of Nordrach with the "sweet reasonableness" of a man like Dr. Meissen, and pictured an ideal sanatorium.

Wehrwald is in the southern part of the Black Forest, not far from Bâle. Sir Lauder Brunton has given an interesting account of it in the *British Medical Journal* of June 7th last. In the correspondence that followed a slight inaccuracy in the account was taken hold of, much to the discomfiture of Dr. Lips. It is fair to point out that there are indeed windows on both sides of the dining-room, those on one side being above the mirrors referred to. We must, however, go on to add that none of these were open during the meals of which we partook. The sanatorium is 2500 feet above sea level, with a subalpine climate. We had to wade in four or five inches of slushy snow, which must constitute a serious disadvantage to such an altitude, contrasting very unfavourably with the dry crisp snow of the high Alps. A modified indoor existence is here again the routine, and one looked in vain for the healthy bronzing from exposure to sun and wind that one sees in Davos and at the English sanatoria even in the winter. Dr. Lips and his assistant Dr. Buckhold treated us with the utmost hospitality and cordiality in spite of our poor linguistic powers. Our apartments were regal, and the pension almost nominal. This building is a palace; everything that money can buy or brain desire has been put into it. But what is most striking is the perfect taste with which the furnishing has been done, and at the same time with a refinement of arrangement against collecting dust. It can hardly be an exaggeration to say that there is not a re-entering angle in the whole building. At corners of rooms and ceilings the plaster is rounded off; all the woodwork is bevelled; there are angle fillets along the floors, and even in all the drawers. After a rigid search we could find no dust at all; in this respect, at all events, the sanatorium is ideal. The walls are papered with salubra, which appears to stand washing and disinfecting well (we have since seen it still in good condition

after six years' use). It is of many patterns and colours, different in every room, and harmonising with the painted ceilings and the staining of the furniture. There is the same linoleum flooring all over the establishment, which is of a beautiful warm tone—as Sir Lauder Brunton pointed out, a quite passable substitute for the comfortable but septic carpet.

As to the routine followed by the patients in the various sanatoria, we found that it was, broadly speaking, the same in all the three big institutions. So many hours a day have to be spent out of doors, the maximum about eight hours, the average certainly not higher than six hours. The bulk of this time is occupied with lying in the various *Liegehallen*, where card-playing is forbidden, and conversation strongly deprecated. A short stroll on the sheltered walks is enjoined on many of the patients, but this rarely exceeds two miles in distance, and is frequently only a few hundred yards. It is clear from this that the cure is more accurately called a "*Liegekur*" than a "*Luftkur*." One of the assistants at Falkenstein told us of the great importance of the prone attitude in improving the nutrition of the apices by increasing their blood-supply—an argument which appears to English ears to be somewhat transcendental. At Nordrach the routine is very different. There exercise is insisted upon for everybody whose temperature is below a certain point, and lying about made impossible by the absence of the *Liegehallen*. The walking is measured by hours rather than by miles, and any pace above two miles per hour forbidden, but at this pace very long walks are taken. Such a system demands for its success constant supervision by a competent physician, who can observe and appreciate the effects on the organs of circulation and respiration, otherwise disasters are certain to occur, as there is no worse judge of his own physical capacity than the tubercular patient in all stages of his complaint. As to results, what conclusion can we come to? As far as we could gather, the opinion of the various doctors was as stated above: the early cases, as a rule, do well; the later ones, as a rule, do badly. We believe Dr. Walther claims many more positive cures than this, but he has never published anything to support this, and the word "cure" is capable of many interpretations.

The consideration of the relative importance of the various factors in the "cure," and of the limits that may exist to the powers for good of the sanatorium life, is too big a subject to be entered on here; we must content ourselves by pointing out that the only common factor of the various systems we examined is supplied by the constant and unceasing supervision of a skilled physician, and the temptation is strong to conclude that that is the most essential element of the so-called open-air cure for tuberculosis of the lungs.

A Case of Measles with Complications.

By W. T. STORRS, M.R.C.S., L.R.C.P.



THE following case occurred in a school during a somewhat severe epidemic. There were four or five cases amongst the boarders of this school, and in each some complication attended the disorder, making an anxious case of what is usually considered, though probably wrongly, a trivial complaint.

M. W.—, æt. 14. First seen on October 11th for "vomiting," being a tall, unhealthy-looking girl. Says she has had running from the eyes and nose for four weeks. Has been menstruating since the 8th inst. Temperature found to be 103.4°.

13th.—Vomiting still easily excited. Temperature at much the same level as last noted. Fauces reddened and swollen. Menstruation ceased yesterday.

14th.—Typical measles rash.

16th.—Rash begins to fade, and temperature to fall.

21st.—Temperature normal for the first time. Still much faucial swelling, and she has to-day complained of earache on right side. No objective signs noted; membrane not reddened or bulging. Desquamation has commenced.

22nd.—Profuse discharge of semi-purulent fluid from right ear. Temperature 101°.

23rd.—Discharge from left ear of similar fluid. No previous complaint of pain noted. Temperature 101.4°.

24th.—Fluctuating swelling over the right mastoid. Both ears discharging.

25th.—Patient anesthetised; incision made over the swelling; semi-purulent material evacuated; surface of bone, immediately over site of antrum, found stripped of periosteum; antrum opened up with gouge, the bare bone being quite soft. Temperature before operation 102.8°.

26th.—Ears discharging freely. General condition improved. Temperature normal. Hæmorrhagic discharge from vagina (? menstruation).

27th.—Wound behind ear draining well. Discharge from left ear nearly ceased. Temperature has begun to rise again.

29th.—Temperature still rising. Patient complains of pain in left groin and lower part of abdomen on the same side. Though tender, nothing abnormal palpable in either situation.

31st.—Pain in left groin and lower part of abdomen much accentuated. Has a slight cough, which much aggravates the pain. Very tender over the area of pain, but nothing palpable. Vaginal discharge has ceased again. Temperature at night between 102° and 103°, falls about two degrees in the morning.

November 5th.—Distinct abdominal swelling occupying lower half of abdomen, limited above by a line drawn through umbilicus, below on either side by Poupart's ligament, but in the centre the swelling extends over symphysis; labia majora are very œdematous. The abdomen above swelling easily palpable, below extremely tender. No sense of fluctuation. Both legs drawn well up in bed. Micturition painful and frequent. Urine normal.

10th.—General condition not so good. Pulse more rapid. Tongue very dry, with brown crust. Some delirium at night-time. Both ears doing well. Abdominal swelling less diffuse, and signs of concentration immediately over symphysis.

14th.—Incision, under anæsthetic, made into fluctuating swelling about two inches above symphysis pubis. Free evacuation of pus. Large abscess cavity found tracking towards left side of pelvis. Temperature before operation 102°; within twelve hours afterwards normal.

The patient made a good recovery, and at the end of December the abdominal wound had practically healed. There was, however, a thin shell of necrosed bone that had not entirely separated from around the opening into the antrum. About this time she was moved into another room, and was partially dressed in the clothes that she wore before her original attack of the measles. Her temperature began again to rise, there was nasal catarrh, and in turn a renewal of the measles rash, and subsequent desquamation,—this time, I am glad to say, without any complication.

This case presents several points of interest. First, it is interesting to note that although the inflammation of the middle ear ran a very acute course on both sides, it was accompanied by very little pain on the one side and practically none on the other. The temperature was normal on the 21st of the month, when we may

take it that the acute aural trouble first started, and by the 24th she had a fluctuating swelling over the mastoid bone. There is, of course, little doubt that the mischief arose from an extension of the post-nasal and faucial inflammation.

The second point of interest lies in the formation of the pelvic abscess. Menstruation was present when the patient first began to feel ill, and ceased the day before the rash appeared. A fortnight later it appeared to come on again, when the mastoid abscess was discharging freely; and two days after its reappearance we get the first complaint of pain.

I may say no vaginal examination was made. Possibly the recurring hæmorrhage may have been due to a "pseudo-menstruation"—an endometritis,—which is said to accompany measles in rare cases; but this does not seem likely, as it was fully a week since the disappearance of the rash.

At any rate, there appears to have been a parametric abscess, and this was due, I suppose, either to an infection from the suppurating mastoid wound—but how conveyed it is hard to see,—or else it must be looked upon as pyæmic. There was not, however, at any time a rigor.

The last point that I should like to call attention to is the fact that the patient was—as far as we could ascertain—re-infected by means of her own clothes within two months of the original attack. Nothing can show more plainly than this the extreme susceptibility of some people to the poison. I may add, finally, that I have not mentioned the treatment, except operative, as it was entirely expectant throughout.

The Cholera Epidemic of Last Autumn in Palestine.

By E. W. G. MASTERMAN, F.R.C.S., D.P.H. Cantab.



ALTHOUGH cholera must indirectly be the cause of the loss of many thousands of pounds annually to Palestine and Syria, it is a long time since an epidemic of any magnitude has appeared in these lands. In Syria there have been two or three comparatively minor outbreaks during the past twenty years. Damascus, for example, was infected in 1890 and 1895, but so far as I know there has been no real epidemic in Palestine proper since 1865.

Nevertheless for several years there has never been a hot season when the whole of the trade along the Syrian coast has not been dislocated through that miserable system known as quarantine. Indeed, it is often a wonder to many of us how shipping lines can continue to run their boats at all, with the ever-changing periods of quarantine against all arrivals from Egypt. At one time five days, the next perhaps ten, then a reduction to three, suddenly re-changed to sixteen, is the kind of thing we hear when inquiring what is the quarantine at any given time. As a rule the authorities at Constantinople find it convenient to reduce the period during the early spring that Palestine may reap some of its harvest from the many tourists (chiefly English, American, and German) and pilgrims (chiefly Russian, French, and Greek) who are fain to make their annual invasion, but of late years this period of relief has been all too short. On the surface of things the long periods are absurd, and how arbitrary are the regulations may be shown by what happened a year or so ago. A period of sixteen days' quarantine against Egypt was being enforced under orders from Constantinople, when an Austrian archduchess signified her desire to visit the Holy Land. Under diplomatic pressure at the Sublime Porte counter-orders were given, and all quarantine at Jaffa was knocked off for two or three days; and then, when the visit of the archduchess was concluded, the old long period was restored. How inconvenient this state of things is may be realised when I explain that all shipping from Egypt has, during seasons of quarantine, to pass by the port of Jaffa, where there is no harbour, and do quarantine in Beyrout. Then from that port mails and merchandise have to be brought, by any chance vessel going down the coast, to Jaffa. It is a system for which there is no redress, and many foreign residents firmly believe it is kept up because, although it half ruins the country as a whole, it brings big fees into the pockets of certain officials.

The irony of the situation, moreover, is that all last summer, while the mails, merchandise, and respectable travellers (often coming as

direct as possible from England, France, or Germany) were all being delayed and upset by these irritating regulations for admittance at the front door, all the riffraff of the country were passing happily through the back door from infected Egypt. This "back door" is the overland route. Here a cordon of soldiers was set to hold the frontier towards Egypt, but for the handsome *baksheesh* of from sixpence to a shilling any native, with his camels, donkeys, and sheep, could entirely evade the elaborate quarantine regulations altogether. The soldiers stationed at this and other roads from Egypt were reaping a rich harvest, when suddenly an ever-increasing rumour arose last September that cholera had appeared in Gaza. Now I suppose it is not peculiar to the Orient, but the word cholera, or, as it is often called here, *el trowa el asfar* (lit. "the yellow wind"), causes a dread among all classes such as no other disease seems capable of inspiring—not even the dread plague itself. Mention the proximity of cholera in an Eastern town, and you will at once have patients howling out with colic, and very possibly exhibiting also the symptoms of vomiting and diarrhoea—from sheer terror. When, from the rising death-rate in Gaza, it was evident to the inhabitants that the disease had actually come, among the first to flee was the governor of the place and the municipal doctor, and with them a crowd of townsfolk. A foreign medical man sent from Jerusalem to investigate failed to get access to cases (the natives carefully hiding the sick), and returned reporting that the disease was not cholera at all, and this though over 250 persons had, as it turned out, died of it by that time in Gaza alone, and far more in the whole district. The increasingly disquieting rumours caused the Pasha here to send a commission of three other medical men (a German and two Greeks), who, by the exercise of firmness and a display of force, making their way into houses with police assistance, soon found abundant evidence as to the character of the epidemic. On their return to Jerusalem that district was declared infected. Several weeks had meanwhile been lost, and scared fugitives from the town had scattered themselves widely around, carrying infection to Jaffa, Lydd, Helom, and numerous villages. What was the actual mortality from cholera at Gaza it is impossible to say. Official returns cannot on the face of it be correct, because in this land, where neither medical attendance nor death certification is enforced, there is no possibility of knowing the truth; truth, too, on such a subject is a disagreeable thing to the official mind, and is usually very deep "in the well." A foreign resident in Gaza, whom I know, formed some idea by having the funerals counted every day, and he reports the following:

For week ending September 20th, 60 deaths; September 27th, 96 deaths; October 4th, 123 deaths; October 11th, 226 deaths; October 18th, 392 deaths; October 25th, 830 deaths; November 1st, 513 deaths; November 8th, 67 deaths; November 15th, 45 deaths; November 22nd, 22 deaths, shortly after which the disease appears to have died out.

These figures apply, firstly, only to the deaths; and secondly, only to those deaths when the interments occurred during the daylight. The total is 2374, but my informant considers a very great number of bodies were buried at night to avoid notice; he even suggests as many interments thus occurred as during the day, but to me this seems hardly possible. I think a total of 3000, however, is well within the mark, which is a large number for a population of only 35,000: allowing for milder cases which recovered and cases that died among the fugitives, at least one in every seven must have taken the disease. In the villages all round Gaza the disease also spread, but here the mortality cannot be even guessed at, for there is no public medical service beyond the towns: only a careful visitation of all the village cemeteries and a census of the new graves would give any idea. The next notable place to suffer was Lydd (the Bible Lydda), which, as has been mentioned, was infected from Gaza. This little town of from seven to eight thousand inhabitants is on the Jaffa-Jerusalem Railway, but fortunately off the high road. The epidemic spread with great rapidity, and in a very few days carried off several hundred persons. Even people who were in the town during the fatal period differ much as to numbers; not less than 300 certainly died, probably many more. A cordon of soldiers was placed round the infected area, and the wretched inhabitants were soon reduced to semi-starvation. Indeed, but for the presence of two English Mission nurses, who made known the wants of the place to the head of the Jaffa Mission Hospital, many must have died of actual want of food. As it was, great quantities of provisions were charitably supplied and indiscriminately distributed. Among the first victims was the village (Greek) priest, to be followed a few days later by the Protestant (Anglican) priest, who had buried him.

The Lydd people, goaded at once by want and fear, made desperate efforts to break through the cordon, probably with success in some directions, for some neighbouring villages were severely attacked shortly afterwards. At the neighbouring town of Ramleh, however, the townspeople, rightly mistrusting the military cordon, organised a voluntary municipal guard, and watched all the roads day and night with such success that they have escaped unscathed. The matron of our hospital in Jerusalem, who happened to be in Ramleh at the beginning of the Lydd epidemic, described to me how one night she saw a number of figures like sheeted ghosts creeping over the fields from Lydd until close to Ramleh itself; the wakeful watches also saw them and drove them back. In Lydd the epidemic reached its height at the end of October. The "official" report in November, when the disease was subsiding, was, first week, fifty-seven new cases, forty-nine deaths; second week, nine new cases, 13 deaths; third week, five new cases, four deaths. Soon after the village was declared clear.

(To be continued.)

Notes.

WE have again to apologise for the tardy appearance of the JOURNAL, and can only appeal to the charity of our readers and assure them that it is due to circumstances rather than to intention. We hope to amend our ways during this year.

* * *

THE name of St. Bartholomew's has figured largely in the public press during the last month, and much has been written that is both unwise and untrue. We do not intend to add to this list, especially as the whole matter may be said to be *sub judice*, contenting ourselves with reiterating the unswerving loyalty of all Bart.'s men to the Hospital and School.

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OWING to a misunderstanding with one of our contributors we are obliged to hold over an account of the dinner given to Mr. Butlin by his house surgeons till the next number of the JOURNAL. An account of a similar function organised by his house physician in honour of Sir William Church will be found in another column. The relationship between the members of the junior staff and their chiefs gives abundant opportunity for intimate knowledge and for free criticism, and no greater tribute could be made to a man than the respect and affection which such gatherings prove; for it is the respect that has grown up from seeing work done under all conditions, by day and night, and under every conceivable stress of work and pressure of time.

* * *

WE hear with great regret the death of Mr. Owen, who died at the Royal Sea Bathing Hospital, Margate, where for the last two months he had been Junior Resident Surgeon. Those who knew him at "Bart.'s" will remember his quiet manner no less than the promise of a successful career which his capabilities seemed to foreshadow. To his relations and friends there should be solace in the reflection that it was in the discharge of his professional duties that he met with his death.

AMONGST those called to the Bar on January 29th was Mr. Henslowe Wellington, an old Bart.'s man. He is Deputy Coroner for the City of Westminster and South-West London, and Secretary to the Medico-Legal Society.

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WE have much pleasure in publishing the programme of the special classes to be held for candidates for the higher surgical examinations. A similar arrangement has been made for instruction in the primary Fellowship Examination.

ST. BARTHOLOMEW'S HOSPITAL AND COLLEGE.

Special Classes for the higher degrees in Surgery (F.R.C.S., M.S.Lond., M.Ch.Oxon., and M.C.Cantab.).

The following special courses of instruction have been designed to meet the requirements of students preparing for the above Examinations.

1. CLINICAL SURGERY.

Mr. Langton	...	Thursday	...	2.30 p.m.
" Marsh	...	Tuesday	...	1.30 p.m.
" Bruce Clarke	...	Wednesday	...	1.15 p.m.
" Bowlby	...	Monday	...	3 p.m.

2. SURGICAL CASE-TAKING AND COMMENTARIES.

Mr. Waring	...	Tuesday	...	10.
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3. SURGICAL ANATOMY.

Mr. L. B. Rawling, F.R.C.S.	Friday	...	10—11.
" W.D. Harmer, F.R.C.S.	Monday	...	12—1.

4. PATHOLOGY.

a. General Pathology and Histology.

Dr. F. W. Andrewes, F.R.C.P.	Tuesday	...	11.
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Six weeks towards the end of the course.

b. Surgical Pathology, Morbid Anatomy, and Museum Work.

Mr. D'Arcy Power	Saturday	...	11 a.m.
" McAdam Eccles	Thursday	...	10.15.

c. Bacteriology.

Mr. Gask, F.R.C.S.	Friday	...	11.
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Six weeks towards the end of the course.

5. OPERATIVE SURGERY.

Mr. D'Arcy Power,	} Three weeks at the end of the course.
" Bailey,	

6. CLINICAL AND PRACTICAL OPHTHALMOLOGY.

Mr. Jessop	...	Tuesday	...	3.30 p.m.
" Holmes Spicer	...	Thursday	...	12

Two courses are held, each of three months' duration, commencing for the year 1903 on February 23rd and September 1st.

The fee for external Students is £15 15s., and £6 6s. for Operative Surgery.

For further information application should be made to Mr. W. D. Harmer, the Warden of the College, St. Bartholomew's Hospital, E.C.

Examinations.

CONJOINT BOARD.

M.R.C.P. Examination.—H. Williamson, J. A. Willett, A. H. Hayes.

Chemistry.—G. H. Dive, S. G. Greeve, L. C. Wilkinson.

Practical Pharmacy.—M. Onslow-Ford.

Elementary Biology.—G. H. Dive, L. Vincent-Welch, S. H. Andrews, E. L. Taylor.

Anatomy and Physiology.—C. N. le Brocq, T. B. Davies, C. B. Mora, E. W. M. Paine, J. E. Smith, J. G. Watkins, C. V. O. Williams, H. N. Wright, E. L. Wright, W. E. L. Fowler.

The following have completed the examinations for the diplomas of M.R.C.S., L.R.C.P.:—R. V. G. Monckton, A. F. Hamilton, F. M. Bishop, D. C. Evans, H. N. Burroughes, T. H. Harker, H. R. Kidner, E. B. D. Adams.

Appointments.

HARVEY, F., M.R.C.S., L.R.C.P., appointed Surgeon to the S.S. "Port Antonio."

JONES, T. C. Littler, F.R.C.S., appointed Assistant Surgeon to the Royal Liverpool Infirmary.

KIDNER, H. R., M.R.C.S., L.R.C.P., appointed Junior Resident Medical Officer to the Royal Sea Bathing Hospital, Margate.

PANK, H. W., M.R.C.S., L.R.C.P., appointed Casualty Officer to the Tottenham Hospital.

STATHAM, H., B.A.(Cantab.), M.R.C.S., L.R.C.P., appointed House Surgeon to the Peterborough Infirmary.

THOMAS, A. E. H., B.A., M.B., B.Ch.(Oxon.), appointed Assistant Medical Officer to the Western Fever Hospital, Fulham.

WATSON, C. Gordon, F.R.C.S., appointed Casualty Officer to the Metropolitan Hospital.

WEAVER, F. K., M.A., M.B.(Cantab.), appointed Assistant Honorary Medical Officer to the Royal Surrey County Hospital, Guildford.

WESTON, HENRY J., M.R.C.S., L.R.C.P., Senior Assistant Medical Officer to the Lewisham Infirmary.

WETHERED, E., M.B.(Lond.), M.R.C.S., L.R.C.P., appointed House Surgeon to the Derbyshire Royal Infirmary.

New Addresses.

BARTON, J. KINGSTON, 14, Ashburn Place, Courtfield Road, S.W.
CRABTREE, E. F., Furneaux Pelham, Buntingford, Herts.
DECK, EDW. JAS., Elsworth, 72, London Road, St. Leonards-on-Sea.

EVANS, LAMING, 9, Stanhope Place, Hyde Park, W. (Telephone: 1911 Paddington.)

HAYDON, A. G., 23, Henrietta Street, W.

LADELL, E. W. J., 241, Essex Road, N.

LANEHLAN, H. D., 167, Stoke Newington Road, N.

MAINGAY, H. B., 33, Queen Street, Scarborough.

MAITLAND, CHAS. R., 25, Croxted Road, West Dulwich, S.E.

PEARSON, M. G., Cleveland, Moore Road, The Barea, Durban.
ST. STEPHENS, W. T., 36, Avenue Mansions, Finchley Road, N.W.

SCOTT, S. R., 62, Belsize Park Gardens, N.W.

THURFIELD, J. H., 45, Weymouth Street, W. (Telephone: 2452 Paddington.)

WILKES, J. HAMILTON, assistant to the late Mr. H. G. Read, 1, Portland Place, W., is now practising at 38, Harley Street, W.

WILLIAMSON, H., 45, Weymouth Street, W. (Telephone: 2452 Paddington.)

WOODBIDGE, E. W., Endsleigh, Newport Road, Barnstaple.

YOUNG, T., Woollacombe, R.S.O., North Devon.

Marriages.

DRAKE—GILL.—At St. Paul's, Dibrugarh, Dennys John Drake, M.R.C.S., L.R.C.P., of Nakachari, Assam, to Helen Katharine, elder daughter of Wallace Gill, Esq., Knaresborough, Yorkshire.

HEY—SYMES.—January 21st, at Holy Trinity, Chesterfield, by the Rev. N. L. Aspinall, Rector of St. Edmund's, Whalley Range, Manchester, assisted by the Rev. J. W. Pratt, uncle of the bridegroom, and the Rev. F. W. Cobb, Rector of the parish, Samuel Hey, M.R.C.S., L.R.C.P., of Ripon, son of the late Samuel Hey, F.R.C.S., of Leeds, to Lucie Caroline, eldest daughter of Dr. W. Sandham Symes, of Chesterfield.

HOOLE—TURNER.—On the 27th January, at Solihull, Warwickshire, John Hoole, M.R.C.S.Eng., L.S.A., to Mabel Adeline, the second daughter of J. W. Turner, Esq., "The Croft," Yardley, Worcestershire.

HOPKINS—GARROD.—On Thursday, December 18th, at St. James's, Kensington, by the Rev. N. S. Hassard, Vicar, Captain Charles Hensley Hopkins, R.A.M.C., second son of the late Mr. Thomas Hopkins, of Limber Grange, Lincolnshire, and Mrs. Hopkins, Fairhill, Great Berkhamsted, to Julia, third daughter of the late Mr. John Jawes Garrod, of Surbiton, Surrey, and Palace Chambers, Westminster, and Mrs. Garrod, 39, Addison Road North, W.